

REMARKS

Claims 1-32 are pending in the application. Claims 17-32 have been withdrawn from consideration. No claims have been amended. Claims 1, 3, 5 and 8 were rejected under 35 U.S.C. § 103(a). Applicants thankfully acknowledge that claims 9-16 have been allowed and claims 2, 4, 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In light of the following arguments Applicants respectfully traverse the rejections and request favorable reconsideration.

On the Merits

The Office Action has again rejected claims 1, 3, 5 and 8 under 35 U.S.C. §103(a) as being unpatentable over *Natori* (US App. Pub. 2003/0021079), in view of *Nam* (US App. Pub. 2003/0057464) and further in view of *Lauder* (USP 4,110,254). Applicants respectfully traverse this rejection. Although not mentioned in the rejection, it appears that the Office Action also relies upon *Yang* (US App. Pub. 2001/0051381) based on the Office Action's arguments.

It appears that the Office Action contends that *Natori*, *Yang* and *Lauder* may each disclose the ferroelectric layer structure as required by claim 1. However, *Natori* only discloses an "ABO₃ type oxide in which Si is provided in a B site." Claim 33. This is not what is required in claim 1. The relevant element of claim 1 reads: "a ferroelectric layer ... having an ABO₃ perovskite structure that contains Ir in at least one of an A site and a B site (A = any one of Bi,

Pb, Ba, Sr, Ca, Na, K, and a rare earth element, B = any one of Ti, Zr, Nb, Ta, W, Mn, Fe, Co, and Cr)....”

The Office Action contends that *Yang* discloses “a metal oxide catalytic composition where in columns 3 and 4 the required ferroelectric/Iridium structure is disclosed.” However, *Yang* only discloses that “the first conductive layer 21 is preferably made of an Ir, IrO_x and Ir laminated layer, the ferroelectric layer 22 is preferably made of a ferroelectric layer with a bi-layered perovskite, e.g. PZT (Pb(Zr_xTi_{1-x})O₃), SBT (Sr_xBi_yTa₂O₉), SBTN (Sr_xBi_y(Ta_iNb_j)₂O₉) and BLT (Bi_{4-x}La_xTi₃O₁₂).” This is not the ferroelectric layer structure required in claim 1 of the present invention. (See claim 1 element above.)

The Office Action must rely on *Lauder*, which is the only reference that appears to disclose an ABO₃ perovskite structure, wherein the “type A cation sites are substantially fully occupied by ions of one metal having an atomic number of 11 to 51 [Na = 11, K = 19, Ca = 20, Sr = 38], 57 to 71, or 89 to 103; about from 1 to 20% of the type B cation sites are occupied by ions of at least one platinum group metal selected from ruthenium, osmium, rhodium, iridium, palladium, and platinum....”

Therefore, it appears that the *Lauder* reference may disclose the ferroelectric layer structure required by claim 1: “a ferroelectric layer ... having an ABO₃ perovskite structure that contains Ir in at least one of an A site and a B site (A = any one of Bi, Pb, Ba, Sr, Ca, Na, K, and a rare earth element, B = any one of Ti, Zr, Nb, Ta, W, Mn, Fe, Co, and Cr)....”

However, even if it can be considered that *Lauder* discloses a material which may correspond to the material of the ferroelectric layer, the Office Action has failed to provide any reason why one of ordinary skill in the art would have been motivated to combine the references in the manner formulated by the Office Action. Furthermore, although the Office Action argues that the references would be combined “in order to have a semiconductor memory structure with increased performance;” there is no such teaching provided by the combination of references that such a result would be achieved.

The Office Action has addressed the response filed on January 24, 2006, but has not provided any further explanation of the rejection. The Office Action maintains that the *Lauder* reference (“useful for the promotion of gaseous oxidation and reduction reactions, particularly in the cleanup of exhaust gases of internal combustion engines,”) is analogous art.

The Office Action cites to *In re Oetiker*, which held, “In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavour or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.”

As indicated above, *In re Oetiker* requires that the reference be “in the field of applicant’s endeavor,” or “reasonably pertinent to the particular problem with which the inventor was concerned.” In the present case, neither of these options is met with regards to the *Lauder* reference.

The present invention relates to a “semiconductor device having a ferroelectric capacitor.” Page 1, lines 15 and 16. *Lauder* relates to “the cleanup of exhaust gases of internal combustion engines.” Abstract. On its face, the inventions are not in the same field.

Furthermore, the *Lauder* reference is not “reasonably pertinent to the particular problem with which the inventor was concerned.” In the present application, “it is an object of the present invention to provide a semiconductor device capable of further improving characteristics of a ferroelectric capacitor compared to the prior art....” Page 4, lines 19-22.

The particular ferroelectric layer structure as required in claim 1 is concerned with improving the ferroelectric performance of the device. See Figures 9-17 and accompanying description. *Lauder* on the other hand is concerned with:

compounds [that] are especially useful as catalysts for the oxidation of carbon monoxide and gaseous hydrocarbons and for the reduction of nitrogen oxides under conditions typical of those involved in the cleanup of the exhaust gases from internal combustion engines. Summary of Invention, column 2, lines 54-59.

As is readily apparent from the previous passages, the respective inventions were concerned with different problems. Therefore, it appears that the Office Action cannot meet the required burden of showing obviousness under 35 U.S.C. §103(a), because the references provide no motivation to combine, and the references are non-analogous art.

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It appears unreasonable to believe that a person having ordinary skill in the art would find it obvious to combine *Lauder*, which deals with catalytic converters for combustion engines, with *Natori*, *Nam* or *Yang* which deal with the semiconductor arts. The Office Action provides no motivation of why a person of ordinary skill in the art would want to combine the references. "The Office Action must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." MPEP 2142.

In view of the aforementioned remarks, Applicants submit that the claims are in condition for allowance. Applicants request such action at an early date.

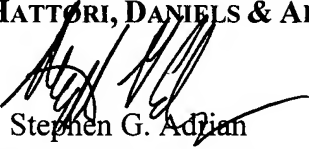
If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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